

CLAIMS

1. An assembly of electric motor with encoder, comprising:

a motor housing;

5 an encoder including a frame member attached to said motor housing in a conductive manner, a circuit board supported on said frame member and a detection circuit provided in said circuit board;

10 an output signal cable connected to said circuit board of said encoder and including a signal wire and a shield member; and

a grounding mechanism electrically connecting said shield member of said output signal cable to said motor housing for grounding purposes;

15 wherein said grounding mechanism includes a conductor provided to be patterned on said circuit board, a first connecting structure mutually connecting said conductor to said shield member, and a second connecting structure mutually connecting said conductor to said frame member.

2. An assembly of electric motor with encoder, as set forth in claim 1, wherein said first connecting structure comprises a first connector connected to said detection circuit and said conductor of said circuit board and a second connector connected to said signal wire and said shield member of said output signal cable, said first connector and said second connector being able to be coupled with each other.

3. An assembly of electric motor with encoder, as set forth in claim 2, wherein said first connector comprises a board connector mounted on said circuit board.

4. An assembly of electric motor with encoder, as set forth in claim 2, wherein said first connector includes a first conductive shell connected to said conductor, and wherein said second connector includes a second conductive shell connected to said shield member,

said second conductive shell being able to be coupled with said first conductive shell.

5        5.    An assembly of electric motor with encoder, as set forth in claim 4, wherein said first connector comprises an outer connector attached to an encoder cover enclosing said circuit board.

10       6.    An assembly of electric motor with encoder, as set forth in claim 1, wherein said second connecting structure comprises a through-hole plating provided in said circuit board to be connected to said conductor, said through-hole plating coming into conductive contact with said frame member.

15       7.    An assembly of electric motor with encoder, as set forth in claim 6, wherein said second connecting structure further comprises a fastening element inserted into a through hole having said through-hole plating and securing said circuit board onto said frame member.

20       8.    An assembly of electric motor with encoder, as set forth in claim 1, wherein said second connecting structure comprises a land provided on said circuit board to be connected to said conductor and a connecting element electrically connecting said land to said frame member.

25       9.    An assembly of electric motor with encoder, as set forth in claim 8, wherein said connecting element comprises a conductive fastening element securing said circuit board onto said frame member while coming into conductive contact with said land.

30       10.   An assembly of electric motor with encoder, as set forth in claim 1, wherein said second connecting structure comprises a conductive fastening element securing said circuit board onto said frame member while conducting with said conductor.

35       11.   An assembly of electric motor with encoder, as set forth in claim 1, wherein said second connecting structure comprises a fastening element securing said circuit board onto said frame member in a condition where

said conductor is brought into conductive contact with said frame member.